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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/554,060	09/25/2006	Young-Tai Kho	19892-002US1/PO050001	4497

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EXAMINER

BENSON, WALTER

ART UNIT	PAPER NUMBER
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2858

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/554,060	Applicant(s) KHO ET AL.	
	Examiner Walter Benson	Art Unit 2858	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☒ Claim(s) 6-8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 October 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-8 are presented for examination.

Drawings

2. The drawings are objected to because figures 5-8 are poor quality faxed copies with shaded data areas. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 2, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Banks (US 6,556,027 and Banks hereinafter) in view of Murray et al. (US 6,870,356 and Murray hereinafter)

5. As to claim 1, Banks discloses a pipeline examination apparatus for Direct Current Voltage Gradient (DCVG) and Closed Interval Potential Survey (CIPS) methods, which detects and analyzes at least one electrode signal while supplying an anticorrosive current to a buried pipeline by switching on and off the anticorrosive current at predetermined intervals substantially as claimed, comprising:

a measurement unit receiving the electrode signal from the signal detection unit and analyzing the electrode signal (col. 8, lines 5-8);

where the measurement unit comprises:

a control unit receiving the electrode signal from the signal detection unit (col. 4, lines 4-6);

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a storage unit storing the electrode signal received by the control unit (col. 3, lines 64-67);

a analysis unit analyzing the electrode signal stored in the storage unit (col. 4, lines 28-36);

a display unit displaying the electrode signal received by the control unit and analysis results obtained from the analysis unit (col. 4, lines 46-52);

where the control unit controls the signal detection unit to detect the electrode signal on the basis of selection of the measurement method selection unit, and controls storage, analysis and display of the electrode signal ((col. 4, lines 53-59).

Banks did not expressly teach:

a signal detection unit detecting the electrode signal including a DCVG electrode signal and/or a CIPS electrode signal;

a measurement method selection unit selecting any or both of the DCVG electrode signal and the CIPS electrode signal to be detected by the signal detection unit.

Nonetheless these features are well known in the art and would have been an obvious modification of the system disclosed by Banks, as evidenced by Murray.

Murray discloses a method and apparatus for mapping voltage potential having:

a signal detection unit detecting the electrode signal including a DCVG electrode signal and/or a CIPS electrode signal (col. 1, lines 11-21);

a measurement method selection unit selecting any or both of the DCVG electrode signal and the CIPS electrode signal to be detected by the signal detection unit (col. 1, lines 21-27).

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Given the teaching of Murray, a person having ordinary skill in the art at the time of the invention would have readily recognized the desirability and advantages of modifying Banks by employing the well known or conventional features of pipeline evaluation technology, such as disclosed by Murray, in order to efficiently locate corrosion in underground pipelines with the Banks device.

6. As to claim 2, Banks disclose where the measurement unit is a touch-screen type Personal Digital Assistant (PDA), and the signal detection unit and the measurement unit communicate with each other through a serial or parallel interface (col. 4, lines 4-18).

7. As to claim 5, Banks discloses where the measurement unit further comprises an output unit capable of outputting the analysis results (col. 4, lines 19-22).

8. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Banks in view of Murray as applied to claim 1 above, and further in view of Hilleary (US Patent No. 6,774,814 and Hilleary hereinafter).

Although the combine teaching of Banks and Murray shows substantial features of the claimed invention (discussed in the paragraphs above), it fails to disclose:

where the measurement method selection unit selects a pulse period of the electrode signal received by the control unit so that the pulse period is synchronized with an ON/OFF period of the anticorrosive current [claim 4];

where the analysis of the electrode signal is performed by sequentially extracting a

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magnitude of the electrode signal stored in the storage unit over time, and the display unit displays the sequential electrode signal over time [claim 5].

Nonetheless, these features are well known in the art and would have been an obvious modification to the system disclosed by Banks in view of Murray as evidenced by Hilleary.

Hilleary discloses a pipeline testing system having:

where the measurement method selection unit selects a pulse period of the electrode signal received by the control unit so that the pulse period is synchronized with an ON/OFF period of the anticorrosive current [claim 4] (col. 6, lines 52-57) to measure the voltage present at the electrodes;

where the analysis of the electrode signal is performed by sequentially extracting a magnitude of the electrode signal stored in the storage unit over time, and the display unit displays the sequential electrode signal over time [claim 5] (col. 7, lines 13-18).

Given the teaching of Hilleary, a person having ordinary skill in the art at the time of the invention would have readily recognized the desirability and advantages of modifying Banks in view of Murray by employing the well known or conventional features of pipeline evaluation technology, such as disclosed by Hilleary, in order to efficiently locate corrosion and determine if pipeline coatings have separated in underground pipelines with the Banks in view of Murray device.

Allowable Subject Matter

9. Claims 6-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art of record fails to teach in combination as claimed a pipeline examination system having an operation of simultaneously receiving the D.CVG electrode signal and the CIPS electrode signal. A DCVG input amplifier amplifying an input value of the DCVG electrode signal. A CIPS input amplifier amplifying an input value of the CIPS electrode signal. An Analog/Digital (A/D) converter converting analog signals received from the DCVG input amplifier and the CIPS input amplifier into digital signals.


Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter Benson whose telephone number is (571) 272-2227. The examiner can normally be reached on Mon to Fri 6:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Hirshfeld can be reached on (571) 272-2168. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Walter Benson
Primary Examiner